

AVIATION

JULY 2, 1923

Issued Weekly

PRICE 10 CENTS



Naval seaplane delivers newspapers to the Presidential yacht Mayflower.

VOLUME
XV

NUMBER
1

SPECIAL FEATURES

NATIONAL BALLOON RACE
AERONAUTICAL SURVEY OF SOUTH AMERICA
AIRCRAFT DEVELOPMENT SINCE THE ARMISTICE
RULES GOVERNING ST. LOUIS AIRPLANE RACES

THE GARDNER, MOFFAT CO., INC.
HIGHLAND, N. Y.
225 FOURTH AVENUE, NEW YORK

Entered as Second-Class Matter, Nov. 22, 1920, at the Post Office at Highland, N. Y.
under Act of March 3, 1879.



Curtiss 90-hp and 120-hp Motors Presented to them with Flying Course, Curtiss Flying School, Garden City, N. Y.

EQUIPPED AND READY TO FLY

Here they are—six men who have just finished their course at the Curtiss Flying School, with the machines presented to them upon their graduation. Each one knows his plane—conditioning and assembling it, and installing the motor each one procured for himself at nominal cost, was part of the required work.

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Five Hundred Dollars for Instruction and Plane Less Motor

For details as to terms, curriculum, enrollment dates, etc.,
Write for Flying School Booklet

CURTISS EXHIBITION COMPANY
GARDEN CITY, NEW YORK.



AVIATION

VOL. XV. NO. 1

Member of the Audit Bureau of Circulations

CONTENTS

Editorial	5	National Balkan Race Notes	17
Aircraft Development since the Armistice	6	Amendments Abandon Polar Flight	17
Rules Governing St. Louis Air Races	10	New British Aircraft Carrier	17
An Aeronautical Survey of South America	11	Helicopter Blowers & Motors	17
British Assistance for Racing Aircraft	16	Airports and Airways	18
Aircraft in Warfare	16	Army and Navy Air Forces	21

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3, 1879.

THOMAS-MORSE AIRCRAFT CORPORATION

CONTRACTORS TO U. S. GOVERNMENT

ITHACA,



NEW YORK

S1444

AVIATION

THE Wright Aeronautical Corporation announces that it has acquired by merger the assets and business of the Lawrance Aero Engine Corporation.

By this acquisition, the Wright Company adds to its present line of water cooled airplane motors the Lawrance line of air cooled motors.

The Lawrance Company has been the pioneer in the development of air cooled motors and today has the only fully developed line now being produced in this country.

The increased engineering and production facilities resulting from the merger of the Lawrance and Wright Companies will result in an increased speed of development in the air cooled type of engine, which is rapidly becoming a vital factor in aviation.

WRIGHT AERONAUTICAL CORPORATION
Patent, New Jersey, U.S.A.



The
Identification of
Wright's
Airplane

W R I G H T

Power Gliding

THE great enthusiasm shown over the recent light plane accomplishments has caused airplane designers to wonder if there really is a demand for a light plane. If the second world war machine is not so successful in performance as the French machine is not so successful in price which was promising it would have an influence, but one of its limitations is now evident.

From an interview with Hubert after the crash of the Devotest in the tropics of New Jersey, the newspaper which credited the approach of the air force as the great event of the day, shows the machine that the terms to be learned is that more power is necessary. A development comparison is made between the 480 hp. DII and the 35 hp. Devotest. As they would the light plane is pictured as a complete failure. Due to a mistaken assumption, for the temporary failure of the Devotest was not due to the limited power. Increasing the size of the engine would destroy all value of the experiment. We must look elsewhere for the cause of the trouble.

One of the objections to the light plane is the fact that it must be long ways on landing, requiring a very large field, or course it does. That is what the light plane class is built for, to fast, or rather to maintain flight at low speeds. The pilot who is used to heavy machines and side square aerodynamics, down into his field and lands out near the ground with some 50 to 100 m.p.h. speed. If the field is enclosed with trees and protected from the wind this is also very nearly his ground speed. Now, owing to another light plane advantage, the machine is low and therefore the deceleration is low and the plane must necessarily "climb" clear over the field before it is slowed to reduced to the 30 to 25 m.p.h. at which landing is possible. The fault lies not with the machine nor with its size, but with the power limitation, but with the acceptance of pilots on the new type. Pilots do not know yet how to use the advantage of low landing speed. In this connection E. T. "Slim" will know for his experiments with the M.I.T. glider, writes: "The trouble with us all at Charnel-Fernand last year was we were not content with glider flying speed; we wanted to have a good strong position on the control such as we were used to on heavy fast machines."

The second difficulty is reliability. The reason the Liberty comes DII's on the mail service operates safely is because the motor is reliable and are given constant expert attention. It is not a question of additional power but of a good motor of good form. The reliability should be far easier to obtain in a small motor than a large one. This will have to be done in the future with the public will have anything to do with the light plane. As for safety of large planes with pilots would rather have low forced landings in a plane landing at twenty to thirty miles per hour than one in a DII Liberty.

The change in interest from gliders to light power has led

to away from a profitable field of study much too soon. It is fortunate that our flying meet in California is to concentrate our efforts upon the more scientific and more fundamental problems for a time. After the English contest last October we had only begun to realize how little we knew about glider design. And soon, already we are contemplating the problem by trying to produce a motor glider, the hybrid which satisfies more our given in speed. When we are ready for the light plane it will come and it will have less power rather than more than the French product which demonstrated economical flight in America.

Cost of Airplane Travel

THE remarkable cheapness of travel on German airlines is shown in the following quotation from a letter recently received by George Newbold, the business manager of America, from his son, George Newbold, Jr., who is a cadet on the New York national training ship "Newport."

"Two of the other fellows and myself flew from Bremen to Berlin and back in a Fokker cabin monoplane for \$100 U. S. currency, a total distance of about 480 miles. We were in the air altogether less than 5 hr. The plane only made about 60 m.p.h."

The above statement is the kind that creates a very unfortunate impression in the United States. Comparisons are made with the cost of travel by airplane here. It is also noted that only a few transportation routes are operating in this country. The reasonable question is—Why?

Saturday, Sunday, Sunday—the word cannot be too often repeated. That it is so easily overlooked or forgotten by those who make comparisons between European and American air lines. England, France and Italy are making a vigorous effort to provide an adequate air arm. Germany, debilitated from the manufacture of military types of aircraft, is keeping aviation alive by supporting commercial air lines. Through this study the German air line are able to make passenger rates astonishingly low.

Of course, other factors also enter into a comparison of costs of airplane travel here and in Germany. The purchasing value as against the exchange rate of German currency, the cheapness of materials and the cost of labor are such factors. By not, the four hundred mile trip would cost in this country about twelve dollars.

Reports like the above lead misinformed persons to conclude that American aviation is behind Europe. This is not the case, except in respect to government encouragement, military, naval and commercial. If interesting inquiries would tell their representatives in Congress about the progress abroad and how the government is backing aviation progress, much good would result.

Rules Governing the St. Louis Air Races

Jointly Issued by St. Louis Air Board and Flying Club of St. Louis Under N.A.A. Sanction

(Continued from last issue)

Flying Club of St. Louis Trophy

Monday, Oct. 1, 1923

This Trophy, donated by the Flying Club of St. Louis, shall be competed for by airplanes of 80 hp. or less, and shall be the permanent possession of the victor of the winning airplane.

CONDITIONS OF CONTEST

(1) It shall be a straight contest among engine pilots, Amer and Navy pilots will not compete in this race.

(2) Engines must be 80 hp. or less. (Borrowers as given by the Engineering Division of the U. S. Air Service at McCook Field will be taken as standard.)

(3) All airplanes must carry a total load of 340 lb., evenly distributed in two cockpit, this load to consist of pilot and one passenger, with sufficient ballast, if necessary, to bring this weight up to the required amount. It is required by the Contest Committee that all contestants carry ballast in less of passenger, in order to facilitate landing in this respect. Under no consideration (no) open cockpit be used.

(4) General condition and shape of plane to be such that in the opinion of the Contest Committee it is safe and not a source to other contestants or spectators. The Contest Committee reserves the right to refuse to admit any airplane which does not comply with these requirements.

(5) At the time of entry the entrant must supply the Contest Committee with a statement, giving the make and stroke of the engine to be used in the race, this statement to be properly executed before a notary public. The Contest Committee reserves the right to check the measurements of any engine entered and to demand the removal of a cylinder for this purpose. The decision of the Contest Committee will be final.

DISTANCE

104 kilometers (64.5 miles), three times around a closed course of 35 kilometers (21.67 miles), starting at St. Louis Field, thence south to the first turning point, thence south west to the second turning point, and return to St. Louis Field.

THE WINNER

On first place shall be the pilot who has completed the full course in the shortest elapsed time, and of equal pilots the shortest best time, etc., provided the pilot is not disqualified. The Flying Club of St. Louis Trophy will be awarded to the victor of the winning airplane and the prize money will be paid to the victor of the winning airplane.

NUMBER OF CONTESTANTS

Maximum number: Forty

Maximum number: Forty

CASH PRIZES

First prize \$500, second prize \$300, third prize \$250

Liberty Engine Builders' Trophy

Monday, Oct. 1, 1923

This trophy shall be competed for by airplanes of 80 hp. or less, and shall be the permanent possession of the victor of the winning airplane.

(1) It shall be a straight contest among engine pilots, Amer and Navy pilots will not compete in this race.

(2) Engines must be 80 hp. or less. (Borrowers as given by the Engineering Division of the U. S. Air Service at McCook Field will be taken as standard.)

(3) All airplanes must carry a total load of 340 lb., evenly distributed in two cockpit, this load to consist of pilot and one passenger, with sufficient ballast, if necessary, to bring this weight up to the required amount. It is required by the Contest Committee that all contestants carry ballast in less of passenger, in order to facilitate landing in this respect. Under no consideration (no) open cockpit be used.

(4) General condition and shape of plane to be such that in the opinion of the Contest Committee it is safe and not a source to other contestants or spectators. The Contest Committee reserves the right to refuse to admit any airplane which does not comply with these requirements.

(5) At the time of entry the entrant must supply the Contest Committee with a statement, giving the make and stroke of the engine to be used in the race, this statement to be properly executed before a notary public. The Contest Committee reserves the right to check the measurements of any engine entered and to demand the removal of a cylinder for this purpose. The decision of the Contest Committee will be final.

DISTANCE

104 kilometers (64.5 miles), three times around a closed course of 35 kilometers (21.67 miles), starting at St. Louis Field, thence south to the first turning point, thence south west to the second turning point, and return to St. Louis Field.

THE WINNER

On first place shall be the pilot who has completed the full course in the shortest elapsed time, and of equal pilots the shortest best time, etc., provided the pilot is not disqualified. The Liberty Engine Builders' Trophy will be awarded to the victor of the winning airplane and the prize money will be paid to the victor of the winning airplane.

NUMBER OF CONTESTANTS

Maximum number: Forty

Maximum number: Forty

CASH PRIZES

First prize \$500, second prize \$300, third prize \$250

contest, at which time the trophy shall be returned to the donor. Suitable loads for the proper care and return shall be required by the donor from each and every person or organization into whose possession the trophy shall at any time be delivered. Should the trophy be won by contestants from a foreign country, then it shall be awarded for the same period of time to the embassy in this country representing the foreign nation from which the winning contestants shall derive, or to the



Sketch map showing location of Boulevard Field, St. Louis, and 50 kilometer course for National Air Race. Oct. 1 - 3, 1923

the United States Air Service, according to the decision of the Contest Committee of the donor.

Gold, silver and bronze decorations will be given to the pilots winning first, second and third places.

CONDITIONS OF CONTEST

(1) Factor of safety - 8 as loaded for start of race.

(2) Air speed greater than 80 m.p.h.

(3) Carrying the following "loaded load" and in addition, crew 340 lb. "Loaded load" shall be determined from the following formula using as a base the rated disk displacement for the 80 hp. Liberty engine

900

1650 ft. X cubic inch displacement of motor used X 51

1650 ft. = Contest Load

Note: Fuel equipment and parachute may be included in the "loaded load", however, first equipment, parachute, and

second may be removed. At the time of entry the entrant must supply the Contest Committee with a statement, giving the make and stroke of the engine to be used in the race, this statement to be properly executed before a notary public.

July 3, 1923

AVIATION

11

The Contest Committee reserves the right to check the removal of a cylinder for this purpose. In case there is a question of the disk disk displacement of the engine, the Contest Committee reserves the right to use the cylinder displacement figure given for such engine by the Engineering Division, McCook Field.

The decision of the Contest Committee will be final.

DISTANCE

100 kilometers (62.42 miles)—ten times around a closed course of 10 kilometers (6.24 miles), starting at St. Louis Field, thence south to first point, thence southeast to second point, thence south passing over airport located approximately 2 miles east of about 1500 ft. altitude, and continuing to St. Louis Field.

THE WINNER

On first place shall be the pilot who has completed the full course in the shortest elapsed time, and of equal pilots the shortest best time, etc., provided the pilot is not disqualified. The Liberty Engine Builders' Trophy will be awarded to the victor of the winning airplane and the prize money will be paid to the victor of the winning airplane.

NUMBER OF CONTESTANTS

Maximum number: Forty

Maximum number: Forty

CASH PRIZES

First prize \$500, second prize \$300, third prize \$250

Aviation Country Club of Detroit Trophy

Tuesday, Oct. 2, 1923

This trophy shall be competed for by airplanes of 80 hp. or less, and shall be the permanent possession of the victor of the winning airplane.

(1) It shall be a straight contest among engine pilots, Amer and Navy pilots will not compete in this race.

(2) Engines must be 80 hp. or less. (Borrowers as given by the Engineering Division of the U. S. Air Service at McCook Field will be taken as standard.)

(3) All airplanes must carry a total load of 340 lb., evenly distributed in two cockpit, this load to consist of pilot and one passenger, with sufficient ballast, if necessary, to bring this weight up to the required amount. It is required by the Contest Committee that all contestants carry ballast in less of passenger, in order to facilitate landing in this respect. Under no consideration (no) open cockpit be used.

(4) General condition and shape of plane to be such that in the opinion of the Contest Committee it is safe and not a source to other contestants or spectators. The Contest Committee reserves the right to refuse to admit any airplane which does not comply with these requirements.

(5) At the time of entry the entrant must supply the Contest Committee with a statement, giving the make and stroke of the engine to be used in the race, this statement to be properly executed before a notary public. The Contest Committee reserves the right to check the measurements of any engine entered and to demand the removal of a cylinder for this purpose. The decision of the Contest Committee will be final.

DISTANCE

100 kilometers (62.42 miles)—ten times around a closed course of 10 kilometers (6.24 miles), starting at St. Louis Field, thence south to first point, thence southeast to second point, thence south passing over airport located approximately 2 miles east of about 1500 ft. altitude, and continuing to St. Louis Field.

THE WINNER

On first place shall be the pilot who has completed the full course in the shortest elapsed time, and of equal pilots the shortest best time, etc., provided the pilot is not disqualified. The Aviation Country Club of Detroit Trophy will be awarded to the victor of the winning airplane and the prize money will be paid to the victor of the winning airplane.

NUMBER OF CONTESTANTS

Maximum number: Forty

Maximum number: Forty

CASH PRIZES

First prize \$500, second prize \$300, third prize \$250

Gold, silver and bronze decorations will be given to the pilots winning first, second, and third places.

CONDITIONS OF CONTEST

(1) Factor of safety - 8 as loaded for start of race.

(2) Air speed greater than 80 m.p.h.

(3) Carrying the following "loaded load" and in addition, crew 340 lb. "Loaded load" shall be determined from the following formula using as a base the rated disk displacement for the 80 hp. Liberty engine

900

1650 ft. X cubic inch displacement of motor used X 51

1650 ft. = Contest Load

Note: Fuel equipment and parachute may be included in the "loaded load", however, first equipment, parachute, and

second may be removed. At the time of entry the entrant must supply the Contest Committee with a statement, giving the make and stroke of the engine to be used in the race, this statement to be properly executed before a notary public.

of passengers is either in elements based in this respect. Under no consideration (no) open cockpit be used during the race. This does not eliminate "cabin" type airplanes which allow the passengers to be comfortably seated in the cockpit during the flight.

(5) The general condition and design of plane to be such that in the opinion of the Contest Committee it is safe and not a source to other contestants or spectators. The Contest Committee reserves the right to refuse to admit any airplane which does not comply with these requirements.

DISTANCE

100 kilometers (62.42 miles)—ten times around a closed course of 10 kilometers (6.24 miles), starting at St. Louis Field, thence south to first point, thence southeast to second point, thence south passing over airport located approximately 2 miles east of about 1500 ft. altitude, and continuing to St. Louis Field.

THE WINNER

On first place shall be the pilot who has completed the full course in the shortest elapsed time, and of equal pilots the shortest best time, etc., provided the pilot is not disqualified. The Aviation Country Club of Detroit Trophy will be awarded to the victor of the winning airplane and the prize money will be paid to the victor of the winning airplane.

NUMBER OF CONTESTANTS

Maximum number: Forty

Maximum number: Forty

CASH PRIZES

First prize \$500, second prize \$300, third prize \$250

Merchants Exchange of St. Louis Trophy

Tuesday, Oct. 2, 1923

This trophy shall be competed for by airplanes of 80 hp. or less, and shall be the permanent possession of the victor of the winning airplane.

(1) It shall be a straight contest among engine pilots, Amer and Navy pilots will not compete in this race.

(2) Engines must be 80 hp. or less. (Borrowers as given by the Engineering Division of the U. S. Air Service at McCook Field will be taken as standard.)

(3) All airplanes must carry a total load of 340 lb., evenly distributed in two cockpit, this load to consist of pilot and one passenger, with sufficient ballast, if necessary, to bring this weight up to the required amount. It is required by the Contest Committee that all contestants carry ballast in less of passenger, in order to facilitate landing in this respect. Under no consideration (no) open cockpit be used.

(4) General condition and shape of plane to be such that in the opinion of the Contest Committee it is safe and not a source to other contestants or spectators. The Contest Committee reserves the right to refuse to admit any airplane which does not comply with these requirements.

(5) At the time of entry the entrant must supply the Contest Committee with a statement, giving the make and stroke of the engine to be used in the race, this statement to be properly executed before a notary public. The Contest Committee reserves the right to check the measurements of any engine entered and to demand the removal of a cylinder for this purpose. The decision of the Contest Committee will be final.

DISTANCE

100 kilometers (62.42 miles)—ten times around a closed course of 10 kilometers (6.24 miles), starting at St. Louis Field, thence south to first point, thence southeast to second point, thence south passing over airport located approximately 2 miles east of about 1500 ft. altitude, and continuing to St. Louis Field.

THE WINNER

On first place shall be the pilot who has completed the full course in the shortest elapsed time, and of equal pilots the shortest best time, etc., provided the pilot is not disqualified. The Merchants Exchange of St. Louis Trophy will be awarded to the victor of the winning airplane and the prize money will be paid to the victor of the winning airplane.

NUMBER OF CONTESTANTS

Maximum number: Forty

Maximum number: Forty

CASH PRIZES

First prize \$500, second prize \$300, third prize \$250

Gold, silver and bronze decorations will be given to the pilots winning first, second, and third places.

CONDITIONS OF CONTEST

(1) Factor of safety - 8 as loaded for start of race.

(2) Air speed greater than 80 m.p.h.

(3) Carrying the following "loaded load" and in addition, crew 340 lb. "Loaded load" shall be determined from the following formula using as a base the rated disk displacement for the 80 hp. Liberty engine

900

1650 ft. X cubic inch displacement of motor used X 51

1650 ft. = Contest Load

Note: Fuel equipment and parachute may be included in the "loaded load", however, first equipment, parachute, and

second may be removed. At the time of entry the entrant must supply the Contest Committee with a statement, giving the make and stroke of the engine to be used in the race, this statement to be properly executed before a notary public.

of passengers is either in elements based in this respect. Under no consideration (no) open cockpit be used during the race. This does not eliminate "cabin" type airplanes which allow the passengers to be comfortably seated in the cockpit during the flight.

(5) The general condition and design of plane to be such that in the opinion of the Contest Committee it is safe and not a source to other contestants or spectators. The Contest Committee reserves the right to refuse to admit any airplane which does not comply with these requirements.

CONDITIONS OF CONTEST.

- (a) Factor of safety of wing cellule as loaded for start of race 2 low incidence condition, 4 high incidence condition.
- (b) Air speed greater than 45 m.p.h.
- (c) Capable of carrying a payload of 300 lb. or over, at a maximum climb of 500 ft. the first minute. The Contest Committee may require the contestant to demonstrate by actual flight that his plane can meet these conditions.
- (d) All surplus, and wiring, the following "contest load" and an additional 500 lb., also gas, oil and water sufficient for the race. The contest load shall be determined from the following formula, subject to a bonus the rules such displacement for the 500 lb. Liberty engine.

400

1/2 Factor of safety displacement of engine or engines used

1/2 Factor of safety load

Note: Free components and parameters may be included in the "contest load" however, free instruments are excluded. These include, engine and engine mount, etc.

- (e) At the time of entry, the entrant must supply the Contest Committee with a statement giving the date and status of the engine to be used in the race, that statement to be signed by a qualified person. The Contest Committee reserves the right to check the authenticity of any engine entered, and to demand the removal of a cylinder for this purpose. In case of a cylinder, a 1000 m.p.h. displacement of no engine, the Contest Committee reserves the right to use the cylinder displacement figure given for such engine as in the Engineering Division, McCook Field. The design of the Contest Committee shall be final.
- (f) Detailed conditions and design of plane to be such that in the opinion of the Contest Committee it is only and not a means to other purposes or objectives. The Contest Committee reserves the right to refuse any such airplane which does not comply with these requirements.

DISTANCE.

500 kilometers (310.27 miles) race around a closed course of 50 kilometers (31.07 miles), starting at St. Louis Field and north to first pylons, then southwest to second pylon, then east across river, ending at third pylon, approximately 10 miles at about 5500 ft. altitude, continuous race at St. Louis Field.

WINNER.

Of first plane shall be the pilot who has completed the full course of the Detroit Grand Prix, and at second place the second best time, or, provided the pilot is not disqualified. Members, Kitchens, of St. Louis Trophy, will be awarded the prize of the winning airplane and the prize money, and the prize of the winning airplane.

NUMBER OF CONTESTANTS.

Maximum number: Four.

Maximum number: Four.

CASH PRIZES.

First prize \$10,000, second prize \$7500, third prize \$5000.

Multi-Engine Model Trophy

October 2, 1933

The trophy shall be perpetual and accepted for awards by members of the Junior Flying League of the National Aeronautic Association, wing load limited model airplanes, driven by rubber strand motor.

The contest shall be in the nature of a distance race, and shall be completed under rules governing such race, as may be prepared from time to time by the Contest Committee of the National Aeronautic Association. The Contest Committee, with the consent of the Board of Governors, shall have the privilege of conducting such annual contest for the Multi-Engine Model Trophy or of assigning the prizes, under sanction, to any other organization.

The trophy shall be awarded each year in the club, body or chassis represented by the entrant at the winning model, and this body shall be returned to the possession of the trophy, and one month prior to the next succeeding season, at which time the trophy shall be given to the National Aeronautic Association, suitable bond for its proper care and return shall be required by the donor, from each and every person or or-

ganization to whom possession the trophy shall at any time be delivered.

Prize and bonus places (winners of this trophy) will be given by the donor to the winner of the model winning first and second place in every contest for this trophy.

CONDITIONS OF CONTEST.

No restrictions on the design of the model groups that they shall have a wing span of not to exceed 40 in. All models must be hand launched and the only motor power will be that derived from the use of rubber strands.

A contestant may be allowed three trials and will be accompanied with the greatest time made in any one of the three trials.

NUMBER OF ENTRIES.

No contestant will be allowed to enter more than three models.

WINNER.

The winner of first place shall be the owner and builder of the model which has remained in flight for the longest elapsed time, and of second place the second longest elapsed time, etc., provided the contestant has not been disqualified.

QUALIFICATIONS.

A contestant may take part in the contest for this Trophy unless he is a member of the Junior Flying League of the National Aeronautic Association, and is good standing. He must also be the owner and builder of the model entered, however, the design for the model may be obtained from one other person than his own. He shall be the builder of the entire model with the following exceptions: Propellers, motor, body and propeller shaft, also such other small metal fittings may be found in the construction of the model may be purchased from outside sources.

DISQUALIFICATIONS.

Any contestant breaking the rules of the race, or subsequent rules which may be used in the future, shall lose the right to continue of the judges be disqualified. Models broken upon landing will not be disqualified.

Detroit News Air Mail Trophy

Wednesday, Oct. 3, 1933

The Detroit News Air Mail Trophy, donated by the Detroit News, to the National Aeronautic Association, shall be given to the pilot for awards by airplane or flying boat.

Such annual contest shall be in the nature of a race either around a closed circuit or from point to point and shall be completed under rules governing such race as may be prepared from time to time by the Contest Committee of the National Aeronautic Association.

The trophy shall be awarded each year to the Air Club or Chapter of the N.A.A. represented by the pilot of the winning machine, and this body shall be entitled to the possession of the trophy until one month prior to the next succeeding season, at which time the trophy shall be returned to the National Aeronautic Association, suitable bond for its proper care and return shall be required by the National Aeronautic Association from each and every person or organization to whom possession of it shall at any time be delivered.

Gold, silver and bronze decorations will be given to the pilot winning first, second and third places.

CONDITIONS OF CONTEST.

(1) Factor of safety of wing cellule as loaded for start of race 4 low incidence condition, 6 high incidence condition.

(2) Air speed greater than 50 m.p.h.

(3) Capable of carrying payload of 500 lb. or over at a maximum climb of 500 ft. the first minute. The Contest Committee reserves the right to require the contestant to demonstrate by actual flight that his plane can meet these conditions.

(4) "Contest load" All surplus, and oil and water sufficient for the race.

(5) Only pilots of the U. S. Air Mail Service are eligible for this trophy, and this trophy shall be awarded to the pilot, driver and owner, and third place in every contest for this trophy.

The Contest Committee reserves the right to refuse to allow any airplane which does not comply with the requirements.

DISTANCE.

300 kilometers (186.21 miles)—race around a closed



Frank Carter, General Chairman,
St. Louis Air Board.



Joseph Pulitzer, Member, Executive
Committee, St. Louis Air Board
and one of the donors of the
Pulitzer Trophy.



Mrs. Albert B. Lindbergh, former pilot,
board member, St. Louis
Air Board.

course of 50 kilometers (31.07 miles) starting at St. Louis Field and north to first pylon, then southwest to second pylon, then east to St. Louis Field.

WINNER.

Of first place shall be the pilot who has completed the full course in the shortest elapsed time, and of second place the second best time, or, provided the pilot is not disqualified. The Detroit News Air Mail Trophy will be awarded to the winning pilot and the prize money paid to the owners of the winning airplane.

NUMBER OF CONTESTANTS.

Maximum number: Four.

CASH PRIZES.

First prize \$5000, second prize \$2500, third prize \$1250.

Pulitzer Trophy

Wednesday, Oct. 3, 1933

The Pulitzer Trophy, donated by Ralph Pulitzer, Joseph Pulitzer, Jr., and Herbert Pulitzer to the National Aeronautic Association, shall be perpetual and competed for annually by members of the Junior Flying League of the N.A.A. represented by the pilot of the winning airplane, and this body shall be entitled to the possession of the trophy until one month prior to the next succeeding season, at which time the trophy shall be returned to the National Aeronautic Association, with the request of the Board of Governors, for the privilege of conducting such annual contest for the Pulitzer Trophy or of assigning the prizes, under sanction, to any other club or organization. Gold, silver and bronze places will be given by the donors in the pilot winning first, second and third place in every contest for the Pulitzer Trophy.

CONDITIONS OF CONTEST.

(1) Factor of safety: 1/2 as loaded for start of race.

(2) Air speed greater than 575 m.p.h. as loaded for start of race.

(3) Stalling speed not to exceed 25 m.p.h. in still air. The

race be calculated theoretically, and it is a condition of this contest that each entrant file with the Contest Committee not later than Sept. 1, the following data:

- (1) Weight of machine ready to fly (with pilot at 160 lb. and full fuel load for the Pulitzer Trophy).
- (2) Total lifting surface of wings.
- (3) Profile of engine used.
- (4) Characteristic curve showing maximum lift derived from rectangular wing model of the section used.
- (5) Max. lift in lb., approximately. Tested at a speed of 40 m.p.h. on a wind tunnel not less than 10 ft. diameter. The test to be made on a tunnel of recognized standing.

The Contest Committee reserves the right to weigh any plane in a check against the figures submitted, also to increase and otherwise check the profile of the wing used.

(6) Velocity and maneuverability (dred and wet) when in opinion of Contest Committee, is not a source to the other contestants or spectators.

All planes in this race must have the ground under a power only, must and must appear as part of its equipment in flight and must have proper landing equipment attached at all times.

DISTANCE.

500 kilometers (310.27 miles), five turns around a closed course of 50 kilometers (31.07 miles), starting at St. Louis Field, thence north to first pylon, then southwest to second pylon and east to St. Louis Field.

WINNER.

Of first place shall be the pilot who has completed the full course in the shortest elapsed time, and of second place the second best time, or, provided the pilot is not disqualified. The Pulitzer Trophy will be awarded to the Air Club or Chapter of the N.A.A. represented by the winning pilot, and the prize money paid to the owners of the winning airplane.

NUMBER OF CONTESTANTS.

Maximum number: Four.

CASH PRIZES.

First prize \$10,000, second prize \$1,500, third prize \$500.

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